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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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COUNTRY USSR (*Moscow Oblast*)

REPORT

SUBJECT Moscow Higher Technical School i/n
Bauman

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SOURCE EVALUATIONS ARE DEFINITIVE APPRAISAL OF CONTENT IS TENTATIVE.

1. *Bauman* report on the Moscow Higher Technical School i/n
Bauman
2. Included in the report is information on organization and administration, including an organizational chart indicating chain of command from the Ministry of Higher Education to the professors and instructors at the school; layout of buildings, with a *sketch of the area*; curriculum; method of grading; distribution of students' time; facilities and equipment; student economy; and placement of graduates.

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MOSCOW HIGHER TECHNICAL SCHOOL I/N BAUMAN

I. GENERAL

The Moscow Higher Technical School i/n Bauman (Moskovskoye Vyssheye Tekhnicheskoye Uchilishche imeni Baumana), [redacted] was the oldest technical institute in Russia, and was once known as the Higher Catherine School (Vyssheye Ekaterinoskoye Uchilishche). It was not known by any other names [redacted] it had no post box number. The institute occupied most of Bauman 2 ulitsa in the Baumanskiy rayon, Moscow. The Yauza River formed the rear boundary of the institute and this portion of the river bank was known as the Leportovskaya Naberezhnaya. The Institute was the most important one of its type in the USSR and was well known outside of the USSR as a mechanical engineering school. It was under the jurisdiction of the Ministry of Higher Education.

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II. ORGANIZATION

The Institute was headed by a director with a technical and administrative director directly responsible to him. The administrative director was responsible for all administrative matters such as personnel, salaries, purchasing school equipment and supplies, repairs and new construction, and janitorial services. The technical director was responsible for the supervision of courses and professors.

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-2-

The technical director also arranged for the length of time of a course and its method and procedures of instruction. The deans of the various departments were responsible to the technical director and in turn the heads of the various courses were responsible to the deans. The professors and instructors were responsible to the deans. The professors and instructors were responsible to the heads of the courses. (See organizational sketch attached).

there were ten faculties or departments,

Technological Mechanics

Mines

Automobile Industry

Motors

Transportation

Precision Mechanics

the political organization of the institute a course in Marxism and Leninism formed part of the curriculum.

III. LAYOUT, BUILDINGS AND FACILITIES

the institute occupied a building area of 300 by 300 meters and a brick fence, 2 to 3 meters, blocked off the area around the two sides and rear. The front had an iron screen fence with two entrances which led through the garden to the entrance of the main building. All laboratories were located on the ground floor of the old part of the building which was two stories high on each end and three stories high in the middle. (See sketch of layout of institute). The ground floor also contained most shops where the student had practical training.

The foundry was located on the side of the main building. The second floor contained offices, libraries and classrooms. The new construction which was an addition to the main building was begun in 1953 and terminated in 1956.

This portion of the construction was very similar to the old, but the middle building was in all probability 4 stories high. it was planned to build a bridge across the Yauza River and create another entrance to the institute from the rear.

IV. HISTORY OF THE ESTABLISHMENT

the 175th anniversary of the institute was celebrated

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-3-

in 1955 or 1956.

the Russian scientist Chevkovskiy was often mentioned as one of its first scientists, and that it was known as the first technical school in the USSR.

Student body had increased a great deal after World War II, and new construction of buildings and facilities was begun in 1953.

However, the increase in faculty and student body was obvious. The primary function of the institute did not change after 1945, but a new director was assigned in 1949.

V. ADMINISTRATION

no special courses were required to be completed prior to enrollment. One only had to complete the tenth grade and take the entrance examination which consisted of Russian (oral and written), mathematics (written), physics (oral) and chemistry (oral). Those who had received gold medals in their earlier studies, indicating outstanding grades received, were allowed to enter the institute without taking the entrance examination. Those who had received a silver medal, indicating good grades received, had to take the entrance examination. However, no particular grade was required in previous schooling in order to be accepted to take the entrance examination.

There were no restrictions for entrance and one simply had to have his or her diploma indicating graduation from the 10th grade.

the institute was well known all over the USSR.

General requirements for entrance into the institute also included that one had to be under 35 years of age to be accepted. There were no political requirements. The recommendation of another person was not required for admittance and apparently gave no advantage to a student. any special consideration being given to sons or daughters of graduates who had been admitted to the institute no preference in enrollment, courses or professors was given to these students.

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-1-

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VI. CURRICULUM AND COURSE OF STUDY

The first year of study, in addition to the regular courses, a course in the review of mathematics was obligatory for all students.

the following subjects as being the curriculum of the institute for a mechanical engineer:

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Higher Mathematics	Metallography
Descriptive Chemistry	Mechanical Drawing
Analytic Geometry	Details of Machinery
Integrals	Theory of Mechanics
Acoustical Physics	Hydraulics
Optical Physics	Thermal Engineering
Electrical Physics	Fundamentals of Marxism and Leninism
Electricity	Political Economy
Organic Chemistry	Organization of Production
Quantitative Chemistry	Technology of Founding
Qualitative Chemistry	Security Work Measures
Analytical Chemistry	History of Technics
Resistance of materials	Automation (added in 1953)

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In addition, military subjects were obligatory for all students

All graduates were given a lieutenancy in the Artillery Branch of the USSR Army Reserves. Further, the student was given practical work in the form of projects to be completed in an assigned factory.

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the opportunity to run lathes, make parts of machinery and to acquire knowledge of tools and machinery.

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In addition to the time spent in class on a given subject, which was from 4 to 6 hours weekly

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Field trips, that is, trips to factories, were required where arrangements had been made for

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-5-

students to do their practical training. [redacted] group visited the Likhacheva Automobile Factory, the Krasnyy Proletariy Machine Manufacturing Plant, Stankolit Lathe Manufacturing Plant, all in Moscow and a locomotive manufacturing plant in Podolsk. Another factory visited [redacted] was the Railroad Manufacturing Plant i/n Kaganovich in Llublino.

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More than one course could not be studied at one time and one could repeat a course only once. Courses could not be audited at any time. The Institute did not offer night classes or courses by correspondence. The majority of the subjects were of two semesters duration, but Theory of Mechanics was offered every three semesters.

All examinations were given orally and marks given ranged from the numerals 1 to 5 as follows:

- 5 - superior
- 4 - good
- 3 - Fair or regular
- 2 - not approved
- 1 - very bad or failure

The minimum requirement for transfer to the next term or course was 3 or better on all subjects. The minimum requirements for a Bachelor's Degree was 6 to 7 years study course with no less than a 3 grade average. For a Master's one had to study at least two more years and write and defend a thesis.

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[redacted] For any of the degrees, a thesis and laboratory and field were required.

VII. EXTRA-CURRICULAR ACTIVITIES

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[redacted] extra-curricular activities, although opportunities to engage in such were afforded to all students. Student organizations or clubs to interest the student in research work or any type laboratory work relevant to his course of study. Social activities were also part of this plan to entice students to join. These clubs were organized by the various departments and were considered as a favorable activity by the students.

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-6-

Practical training began the first year of school. One day weekly was devoted to the training in the work shops of the institute located on its grounds. A student actually handled tools, ran lathes and made parts; worked in the school foundry and studied all machinery with which he came in contact. Beginning with the third year, students were assigned without choice to various factories to work one and two months during the summer which time was counted as school time. Students actually worked like any other worker and received a great deal of practical experience. 25X1

Professors of the Institute and factory heads were the consultants of students in such activities. 25X1

School courses were operated in two shifts. One shift started at 0830 six days weekly and ended at 1400 hours, and the next shift started at 1400 and ended around 2000 hours. Each shift lasted from six to eight hours depending on subjects studied that day. 25X1

each shift contained 1,500 students.

IX. GRADUATES

Each year the school graduated approximately 800 students with the title of Mechanical Engineer, Master's Degrees and Doctor's Degrees. 25X1

Upon graduation, the Government had a job placement program and all graduates were obligated to accept the place and job assigned for a three year period. 25X1

students did not have a choice on their job assignments.

Job placement and number were determined by requests of the various ministries such as the Ministry of Heavy Industry, to the Ministry of Higher Education, who in turn assigned the graduate.

Only outstanding and promising graduates were approached and encouraged to continue in their studies or to work in research. Others in the Institute needed only to apply to other institutes or schools for a Master's Degree if they were not acceptable at the Institute Bauman. However, applicants had to take and pass the entrance examination. Graduates who were approached and remained at the institute received more stipend (800 rubles) and in addition to this, the Institute hired them to teach or assist professors for extra pay. 25X1

graduates were also allowed to work on the outside and continue their studies.

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-7-

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X. ADMINISTRATION AND PERSONNEL

The administrative staff which consisted of the Administrative Director and office staff, in addition to the responsibilities outlined above, were responsible for the teaching staff. They could hire or release instructors with approval of the Head Director and in the case of professors who were well known and had established a reputation, then the Ministry of Higher Education was consulted in the release of said professors.

Policy decisions came from the Ministry and were distributed through the Director to the Administrative Director or Technical Director and thence to department heads who in turn distribute to the teaching staff.

the following surnames of professors:

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(fnu) Acherkan - Professor in General Science

(fnu) Dobrovolskiy - Professor, specialty unknown.

(fnu) Aparin - Professor - taught Resistance of Materials.

M. M. Saverin, (deceased 1953) Doctor Degree and Professor, Scientist in Mechanics.

(fnu) Svirno - Dean of the Department of Technological Mechanics.

✓V. P. Smirnov ?

XI. FUNDS

The audit of funds was done by the bank where the money for the school was deposited.

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the Ministry of Higher Education distributed the funds. special amounts were allotted for research purposes

Permanent teachers of foreign nationality were not employed at the Institute, but foreign books and magazines were available in great quantities. the books and magazines come from all foreign countries,

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XII. TIME DISTRIBUTION AND SCHEDULES

The normal schedule of classes was from 0830 each morning, six days weekly to 1400 hours, and then began another shift from 1400 hours to 2000 hours. A ten day to two week vacation was given at end of the first semester examination which usually occurred in December or January and a two month summer vacation, July and August. Holidays were observed on first and second of May, seventh and eighth November, on the fifth of December and New Year's Day. Home leave was permitted to students, but time depended on the circumstances, such as death or sickness in the

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-8-

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family. Students were permitted sick leaves, and time and permission was authorized by the doctor. The doctor had the authority to have a student drop a course, if necessary for the student's health. Generally students chose rest homes and sanitoriums during summer vacation to rest. The majority of the instructors also took their vacation during the summer months which was decided by the Director of the school. Graduate students took their vacation at the same time as other students.

XIII. STUDY PERIODS

Hours of study required at home to prepare for the next day's classes, depended largely on the student, but generally most students spent from 2 to 4 hours nightly. There was more reading done than writing and on the average there were about 3 hours reading to one hour of writing. This time varied with each year of advancement especially in the last year when a thesis was required, then writing and reading were about equal. The last year of study required less outside study, but graduate study, [redacted] required a great deal more outside study than any time during the entire course. Summer classes as such did not exist at the Institute, but some students were required to spend one or two months of practical study in factories for which time they were compensated. Regardless every student sooner or later received his two month's vacation.

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XIV. STUDENT ECONOMY

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[redacted]
[redacted]
[redacted] Some Russian students received special allowances depending on their grades and research work. The average cost of food ranged from 300 to 400 rubles monthly. This again depended on the student. Average cost for housing was 15 rubles monthly. There was no cost for books and materials. Materials were provided and books were obtained from the departmental or school libraries for use throughout the school years. The books were returned at the end of the school year. [redacted]
[redacted]
[redacted]
[redacted]

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[redacted] There were no special fees paid by the students for laboratories, clubs, registration, filing for thesis application, special conferences or lectures nor for library.

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-9-

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FACILITIES AND EQUIPMENT

XV. LIBRARIES

Each department or faculty of the Institute had its own library. [redacted] the Department of Technological Mechanics could seat 700 to 800 students. It offered up-to-date materials and reference books and magazines. Students referred to these materials to accomplish their school tasks and received text books for the entire year. There was no limit to the use of the library. There was no reference material or books available on micro-film, and no photographic materials were available for students' use. Certain sections of the library were dedicated to graduates, but it was also open to students. The reference material and books found here were more advanced, but not necessarily of better quality. There were no student thesis papers stored in the library. All thesis papers were kept in the office library of the respective department head, and were available to students.

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XVI. LABORATORIES

[redacted] the Institute did not have a laboratory for the study of electronics. However, student laboratories existed for all the departments. [redacted] 10 laboratories for the Engineering Department, one for chemistry, one for physics and none for astronomy or biology. The laboratories contained all up-to-date materials and equipment, but nothing of a special nature. All equipment was available for students' use. The best equipment was found in the engineering laboratories such as the hydraulic laboratory. Equipment and material were always available, and when equipment was damaged, it was immediately repaired by the school's technicians.

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[redacted] to assure proper care and use of laboratory equipment, the laboratory assistants and professors first teach the students how to handle material and equipment. [redacted] materials were available in unlimited quantities in the laboratories, and what materials were issued under strict control and in quantities needed. Graduate students were not given preference regarding use and supply of materials which were never lacking. Materials such as liquid oxygen, radioactive materials were not found in these laboratories.

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XVII. BUILDING FACILITIES

[redacted] the classrooms were not large enough to accommodate the students in classes. Especially crowded were the lecture rooms. Hence the new construction from 1953 to 1956

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-10-

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(See attached sketch of building area). What building facilities were available were kept in good repair.

XVIII. IMPRESSION AND EVALUATION
OF EDUCATION

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In general, [] students regarded their higher education as being difficult. The Institute was recognized as the best of its kind and also the most difficult in matters of course and study. The curriculum offered much specialization, [] more specialization could have been offered, [] it was too broad in scope. The course was not too scientific, but sufficiently technical and not too theoretical. [] enough practical training but more would have been better []

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The material and equipment was adequate, but classrooms were lacking at that time. The instructors were well informed in their subjects, well qualified in all aspects, and were able to get their points across to the students. They were respected by the students and the instructors were disposed to help each student individually by private consultation.

In the scientific field, the course, but not the examinations, demanded of the student an encyclopedic knowledge of facts and data, precise knowledge of methods and techniques, profound knowledge of theories, an alert and ranging mentality capable of taking a sound approach to unfamiliar problems, and a capability to successfully meet and overcome unusual problems. [] schooling had prepared [] to step into a job and immediately perform the tasks assigned [] but with assistance. Further on-the-job training gave [] confidence and experience []

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XIX. ASSOCIATIONS AND INFLUENCES

The Ministry of Education, the controlling Ministry of the Institute, influenced and controlled the curriculum of the school, the number of students permitted for acceptance, known as the student plan, and always was interested in the results of the study program. It also, more or less, controlled the confirming of the thesis.

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[] what influence or control was exercised by the Academy of Sciences over the Institute, [] all research conducted by the professors was controlled by the Academy of Sciences, as were all conferences, new scientific and academic methods. The Council of Ministers had no direct control over the Institute but did have an influence on the student plan as to how many students were to be accepted and for what courses.

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The Institute had affiliations with other schools in the matter of having its professors teach, give talks in other schools and factories. This affiliation always existed with the object of utilizing knowledgeable and eminent professors in as many locations as needed and required. The professors also acted as consultants and gave technical and scientific assistance. []

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-11-

or was engaged in projects with other establishments. However [redacted]
[redacted] research work was being conducted at the Institute [redacted]
[redacted]

[redacted] persons from foreign countries had never visited the Institute, and there existed no affiliation or associations with any foreign establishments or organizations.

XX. AWARDS, SOCIETIES, CONVENTIONS

The Institute was awarded the Order of the Red Banner of Labor for merit [redacted]. The Institute was also awarded the Order of Lenin in 1955 or 1956 in commemoration of its 175th anniversary. [redacted]

Students clubs and societies existed for each of the departments, but membership was not obligatory. Generally the interested professor would sponsor the organization, but the students' interest and participation were strictly voluntary. The organization gave the students a feeling of working together, they discussed school problems and occasionally enjoyed social events. The various clubs usually met in the afternoons or early evenings. [redacted]

[redacted] no conventions as such were held at the Institute, but students from other institutes and schools did gather there at times and exchanged ideas and experiences and spoke of their school work and subjects. [redacted]

XXI. PUBLICATIONS

Scientific publications were readily available to students and professional personnel as were foreign scientific and technical publications to the extent desired. [redacted] what

extent security restrictions hampered the Soviet scientific worker in receiving needed classified literature. Science received a great deal of publicity especially through press and more so by radio, but it would have been rare to read of any inventions and research work of a military nature. The scientific collections in local library collections were large and good. Approximately 15 to 20 percent of foreign literature was available to the public, and a great deal more to the student. [redacted]

[redacted] the percentage of foreign literature which contributed to Soviet scientific and technical publications, and knew nothing of conference publications readily available and freely distributed.

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-12-

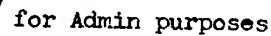
[redacted] the following outstanding publications in science
and technology:

1. Machine Construction Herald(Vestnik Mashindstroyeniya).
Monthly publication which dealt with aspects of
techniques in general. It dealt with conferences,
gatherings, methods employed in branches of industry
and the like.
2. Lectures of the Academy of Sciences (Doklady Akademii Nauk).
Monthly publication on thesis and conferences.
3. Foundry Magazine (Liteyshchik)
A monthly publication on foundries.
4. Construction Magazine (Stroitel)
A monthly publication on construction materials and
procedures.
5. Science and Life (Nauka i Zhizn')
A monthly publication dealing in science in general and
scientific discoveries.

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SKETCH OF MOSCOW HIGHER TECHNICAL
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